

Notice of Allowability

Application No.

09/765,621

Examiner

Charles Kim

Applicant(s)

TAKEO, HIDEYA

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to submissions received on September 20, 2007.
2. ☒ The allowed claim(s) is/are claims 3-6,8-10,13-16,18-20,32,34,36,37,40,41 (renumbered as claims 1-20 accordingly).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Response to Amendment and Arguments

1. Applicant's amendment filed on September 20, 2007 has been entered and made of record.
2. Applicant's submission of the translation of the foreign priority document has been entered and made of record.
3. In view of Applicant's submitted translation of the foreign priority document, the 112 first paragraph rejection is withdrawn. Moreover, in view of Applicant re-writing the claims that were objected to as being allowable (See Final Rejection mailed September 20, 2006) in independent form including all the limitations of the base claim and any intervening claims, there are no outstanding rejections remaining and therefore, the case is now in conditions for allowance. Below are the reasons for allowance.

Reasons for Allowance

4. The following is an examiner's statement of reasons for allowance:

Referring to claims 3 and 13, the essential difference from the prior art is transforming the image signals by applying two-dimensional wavelet transformation to the original image signal by use of a low-pass filter which splits a band so that its response at a frequency greater than the spatial frequency of the stationary grid becomes approximately zero and the reducing step that further applies a process of reducing a component less than a predetermined frequency and then performs inverse wavelet transformation with respect to a signal of the transformed

Art Unit: 2624

image signals which contains a spatial frequency component corresponding to the grid array frequency. These features in combination with the other elements of the claim and the base claim are not disclosed or suggested by the prior art of record.

Referring to claims 9 and 19, the essential difference from the prior art is the transforming step that obtains the plurality of transformed image signals by applying one-dimensional wavelet transformation to the original image signal in the grid length direction of the stationary grid by the use of a predetermined band splitting filter; and the reducing step that further applies a process of reducing a component less than a predetermined frequency and then performs inverse wavelet transformation, with respect to a low frequency image signal of the transformed image signals which contains a spatial frequency component corresponding to the grid array frequency of the stationary grid. These features in combination with the other elements of the claim and the base claim are not disclosed or suggested by the prior art of record.

Referring to claims 32 and 34, the essential difference from the prior art is the reducing step that reduces a component less than a predetermined frequency by recursively and repeatedly applying one-dimensional wavelet transformation to the transformed image signal containing a spatial frequency component corresponding to the grid array frequency, in a grid array direction of the stationary grid by a predetermined number of times by the use of a predetermined band splitting filter, then making zero transform coefficients of a low frequency image signal of a plurality of image signals obtained by the one-dimensional wavelet transformation, and applying inverse one-dimensional wavelet transformation. These features in combination with the other elements of the claim and the base claim are not disclosed or suggested by the prior art of record.

Art Unit: 2624

Referring to claims 36 and 37, the essential difference from the prior art is reducing the transformed image signal by extracting a low frequency component in a direction perpendicular to the array direction from the transformed image signal containing at least the spatial frequency component corresponding to the frequency of the periodic pattern in the array direction, the low frequency component having a spatial frequency lower than a predetermined value, and then reducing the extracted low frequency component. These features in combination with the other elements of the claim and the base claim are not disclosed or suggested by the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 571-272-7421. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Charles Kim
Patent Examiner
Art Unit 2624
chongr.kim@uspto.gov



BHAVESH M MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

September 26, 2007